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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/922,352

08/03/2001

Sanjay Yadav

005445/DISPLAY/AKT

7790

32588

7590

10/06/2004

APPLIED MATERIALS, INC.
2881 SCOTT BLVD. M/S 2061
SANTA CLARA, CA 95050

EXAMINER

MEEKS, TIMOTHY HOWARD

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/922,352

Applicant(s)

YADAV ET AL.

Examiner

Timothy H Meeks

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1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 25-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 25-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Application Status

The amendment filed on 8/9/04 has been fully considered. Claims 1-3, 5-14, 25, 28-30, 33, 35, 36, and 38 were amended. claims 15-24 were canceled. Claims 39-53 were added. Claims 1-14 and 25-53 are pending.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-14 and 25-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al. (4737,824) in view of WO 01/07691 (WO 691).

Sakai et al. disclose a process for improving the planarity of a substrate support plate for use during a substrate processing comprising adjusting a pressure in a hollow core of a shaft below atmospheric pressure so that pressure in the hollow core acts on the lower surface of the plate and pressure above the top surface acts on the upper surface to improve the planarity of the substrate during processing (abstract, figure 2, col. 2, lines 30-40, col. 3, col. 4, lines 10-25, col. 5, lines 10-23, col. 6, lines 25-40, col. 7, lines 65-68). Sakai further discloses providing an independently controlled vacuum chucking system (lines 3a and 3b in figure 2) and monitoring the flatness of the wafer during processing to adjust the pressure so that the desired planarity is achieved (figure 2 and col. 7, lines 20-35).

Sakai only exemplifies performing the planarity adjustment to maintain a substrate flat during projection of an image of a circuit mask thereon and therefore does not disclose the limitations of reducing a pressure in a deposition chamber to a level required for deposition of a film onto the substrate or other limitations related to depositing a film.

However, because WO '691 discloses that it is critical to maintain substrates flat during the deposition of epitaxial layers in a deposition chamber at reduced pressure to prevent the edges of the substrate from curling and causing nonuniform coatings thereon (page 3, lines 1-25), it would have been obvious to have performed the method for improving planarity of the substrate in such a reduced pressure deposition chamber so as to prevent curling of the edges of the substrate during deposition.

The prior art does not explicitly disclose the numerical values of the reduced pressure in the hollow shaft or the deposition chamber or the substrate temperature, however, because it is well settled that "where the principal difference between the claimed process and that taught by the reference is a temperature difference, it is incumbent upon applicant to establish criticality of that temperature difference", see *Ex Parte Khusid* 174 USPQ 59, and one would clearly find this principle applicable to other process parameters, such as pressure, it would have been *prima facie* obvious to use pressures in the claimed range, absent evidence showing a criticality for use of the claimed pressures.

With respect to claims requiring that the suction line for the vacuum chucking system run through the hollow shaft, it would be clear that such arrangement would be necessary to accommodate the necessary rotation disclosed in WO 691 without twisting of the line.

Response to Arguments

Applicant's arguments filed 8/9/04 have been fully considered but they are not persuasive.

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Applicants argue that the claims are patentable because neither reference discusses improving uniformity of a plate supporting a substrate. As established in the rejection above, however, Sakai discloses in Figure 2 and the discussion related thereto a method for providing planarity to the part 4a which is a plate that supports the substrate.

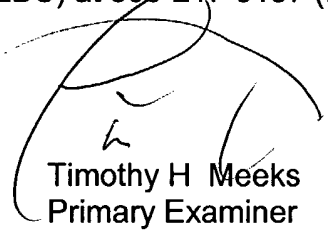
Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy H Meeks whose telephone number is 571-272-1423. The examiner can normally be reached on Mon 6-6 and T-Th 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 571-272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Timothy H Meeks
Primary Examiner
Art Unit 1762